AMENDMENTS TO THE CLAIMS

Please amend the claims as follows:

Listing of Claims:

Claims 1-77 (Cancelled).

Claim 78 (Currently Amended): A method for detecting change of a physically measurable property of a sample, comprising:

(i) generating and passing radiation through an optical mask to generate masked radiation having a specific intensity distribution, the specific intensity distribution having a known pattern function that depends on a coordinate position where the radiation has passed through the mask, and the specific intensity distribution is not homogeneous;

(ii) subjecting the sample to the masked radiation for a defined action time, to thereby cause a change in a physical property of the sample during the defined action time;

(iii) detecting at least one of transmission, reflection, and scattering of analysis radiation generated by at least one of transmission, reflection, and scattering of the masked radiation by the sample, as a function of position coordinates of the analysis radiation relative to the sample and a wavelength of the analysis radiation, so as to determine a response function that describes intensity of the at least one of transmitted, reflected, and scattered analysis radiation as a function of the position coordinates relative to the sample and the wavelength; and

(iv) determining a correlation of the specific intensity distribution of the masked radiation with the response function by a correlation analysis, the correlation analysis producing a measure of a change of the physically measurable property of the sample due to the masked radiation during the defined action time, and determining an extent to which the specific intensity distribution of the masked radiation correlates with the response function by

calculating a correlation function by correlating each coordinate position of the specific intensity distribution of the masked radiation with a corresponding coordinate position of the response function of the sample, and by generating a power spectrum of the calculated correlation function.

Claim 79 (Previously Presented): The method as claimed in claim 78, wherein the radiation includes light in a wavelength between 400nm and 800nm.

Claim 80 (Previously Presented): The method as claimed in claim 78, wherein the specific intensity distribution produced a reference pattern on the sample during said step of (ii) subjecting.

Claim 81 (Previously Presented): The method as claimed in claim 78, wherein the specific intensity distribution is produced by the mask that has a wavelength-dependent transmission function.

Claim 82 (Previously Presented): The method as claimed in claim 78, wherein the radiation is generated by artificial or natural sunlight.

Claim 83 (Previously Presented): The method as claimed in claim 78, wherein the mask is a barcode mask.

Claim 84 (Previously Presented): The method as claimed in claim 78, wherein the specific intensity distribution is a periodic intensity distribution with a spatial frequency.

Claim 85 (Previously Presented): The method as claimed in claim 78, wherein the at least one of the transmission, reflection, and scattering of analysis radiation is determined in at least one of Ultra Violet-Visible Spectroscopy and Near Infrared.

Claim 86 (Previously Presented): The method as claimed in claim 78, wherein the at least one of the transmission, reflection, and scattering of analysis radiation by the sample is determined for a plurality of wavelength ranges, so as to determine a plurality of response functions for the plurality of wavelength ranges.

Claim 87 (Previously Presented): The method as claimed in claim 78, wherein the response function is respectively determined for red, green and blue light by RGB analysis.

Claim 88 (Previously Presented): The method as claimed in claim 78, wherein the reflection of the analysis radiation is detected.

Claim 89 (Previously Presented): The method as claimed in claim 88, further comprising the step of:

using telecentric measurement optics for detecting the reflection of the analysis radiation.

Claim 90 (Previously Presented): The method as claimed in claim 78, wherein the scattering of the analysis radiation is detected.

Claim 91 (Previously Presented): The method as claimed in claim 90, further comprising the step of:

using a confocal color measurement system for detecting the scattering of the analysis radiation.

Claim 92 (Previously Presented): The method as claimed in claim 78, wherein at least one of the reflection and scattering of the analysis radiation by the sample as a function of the position coordinates relative to the sample is detected using a color scanner.

Claim 93 (Previously Presented): The method as claimed in claim 78, wherein the at least one of the reflection and scattering of the analysis radiation by the sample as a function of the position coordinates relative to the sample is detected using a digital camera.

Claim 94 (Previously Presented): The method as claimed in claim 78, wherein the sample includes a substrate and that is covered with paint, and the masked radiation acts on the paint.

Claim 95 (Previously Presented): The method as claimed in claim 94, wherein the paint is an automobile paint.

Claim 96 (Previously Presented): The method as claimed in claim 78, wherein said pattern function is generated by a periodic grating structure on the mask.

Claim 97 (New): The method as claimed in claim 78, wherein said step (iv) of determining the correlation calculates a power spectrum based on a following equation:

$$P(k',m) = \sqrt{\left[\int_{allk} S(k,m)\cdot \sin(2\cdot\pi\cdot k'\cdot k)\cdot dk\right]^2 + \left[\int_{allk} S(k,m)\cdot \cos(2\cdot\pi\cdot k'\cdot k)\cdot dk\right]^2}$$

where S denotes the response function of the sample, k denotes a first Cartesian coordinate value, k' denotes a spatial frequency, m denotes a second Cartesian coordinate value, and P denotes the power spectrum.

Claim 98 (New): The method as claimed in claim 78, wherein said step (iv) of determining the correlation calculates an average power spectrum for all the coordinates of the generated power spectrum.